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TEACHER EDUCATION IN CONTEMPORARY SOCIETY: PEDAGOGICAL PRACTICES FOR HOLISTIC QUALITY AND RELEVANT TEACHER EDUCATION IN THE 21ST CENTURY

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Abstract:
This paper reviews literature on selected pedagogical practices with a view to making recommendations on how teacher training colleges in Kenya could employ collaborative pedagogies in instruction in order to nurture teacher trainees with knowledge, skills, values and attitudes that prepare them to effectively facilitate learning in schools after pre-service training. Collaborative pedagogies have the advantage of developing learners with 21st century skills such as creativity, critical thinking, problem solving and innovation. The skills enable them to confront the numerous societal challenges emanating from the dynamic technology. Further, with technology support, the pedagogies promote inclusive education through individualized learning that is personalized and self-directed. The paper recommends that the Teacher education programme in Kenya should embrace reforms in curricula and teaching methods to facilitate use of pedagogical practices that develop teacher trainees with the skills needed in today's vast society. This could prepare them to offer holistic quality and relevant education that can contribute to the development of the society.

Keywords: pedagogy, collaboration, holistic education, personalized learning, transmission model

1. Introduction

Research indicates that the content, resources and mode of delivery in teacher education in Kenya has not changed much since its inception in Africa in the mid-

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nineteenth century, despite the dynamic technological changes in the society. The programme has continued to use the transmission model of education and retain the nature and structure of the curriculum it inherited from Europe. It has also continued to engage unqualified teacher trainers for various levels of teacher training including degree, Diploma and Certificate (Kafu, 2013). Further, research indicates that the programme has not yet integrated technology in learning (Ochangi, Ayot, Kamina, Ondigi & Kimemia, 2015) and has not also facilitated in-service teachers with professional development (Kafu, 2011, & 2015; Bunyi, 2011; Ochangi, Ayot, Kamina, Ondigi & Kimemia, 2015). These are pertinent issues in education that require urgent attention if teacher education programme in Kenya is to develop teacher trainees with skills that will enable them to effectively facilitate learners with holistic quality education. It is imperative that the programme undergoes reforms in order to align it with the needs of the dynamic 21st century society for relevance. Further, Kafu (2011) recommends that teaching should be professionalized to avoid the scenario of untrained teachers engaging in the profession. He argues that a move towards this direction would make teaching gain the respect and status accorded to other professions including Law, Engineering and Medicine, which do not allow untrained people to engage in the practice. This could further enhance the quality of education offered in learning institutions and also attract young people to the profession. In addition, the programme should integrate technology in both pre-service and in-service teacher training to ascertain that the teachers churned out by the institutions are globally competitive.

This study discusses selected pedagogical practices considered effective in enhancing holistic quality education and in developing learners with the 21st century skills. They include enquiry based and collaborative pedagogies, project and programme based learning, reflection, case study teaching method, lifelong learning, inclusive pedagogy, integrating mobile technology and social media in learning, learning environment and reforms in in education. The study considers these pedagogical practices crucial in enhancing transformative education to learners as they go through the teaching-learning process. In this study, the term pedagogy is used to refer to the method and practice of teaching.

2. Enquiry-Based and Collaborative Pedagogies

Enquiry and collaborative pedagogies allow learners to actively participate in problem solving, seek information and engage in creative and critical activities through the learning process as they work in groups. This enhances deep learning and

internalization of concepts, principles and skills (Kiruhi, Githua & Mboroki, 2009). The pedagogies recognize that new knowledge needs to be integrated with existing knowledge and that learning is gained through dialogue and exploration of different ideas and progressive understanding centered on the learner. The pedagogies are thus in tandem with the 21st century education's mission of developing learners with professional and personal skills they need to cope with real-life and employment situations in future. Hampson, Patton and Shanks (2011) contributes to the discussion stating that enquiry, design and collaborative pedagogies enhance development of 21st century graduate employability skills such as commitment, problem-solving and adaptability and also benefit both individual and collective knowledge growth. Barron and Darling-Hammond (2008) add that enquiry-based learning helps learners develop content knowledge and learning skills including ability to work in teams, solve complex problems, and knowledge transfer to address challenges in different circumstances. However, Barron and Darling-Hammond (2008) maintain that learners should be taught team building skills to help them learn to collaborate, negotiate and contribute to joint assignments and experience the sharing of roles, responsibilities and ownership of learning. Teacher training institutions should employ the pedagogies in instruction to equip teacher trainees with the skills outlined above so that they can in turn employ the pedagogies in schools to provide learners with holistic quality education that is responsive to the needs of the society today.

Weimer (2012) extends the discussion arguing that teachers should see classrooms as communities of learners where students learn from and with each other under the guidance of the teacher, who is also expected to be ready to learn from students and develop structures that promote shared and individual commitments to learning. This Provision of opportunity to learn individually and collectively is a crucial goal of educational experience which teachers should uphold in education. Proponents of enquiry and collaborative pedagogies believe that knowledge is socially constructed through dialogue and consideration of multiple perspectives. Thus, through collaborative engagement, the learner constructs new knowledge by relating new information to prior knowledge and experience (Freire, 2006). Smith and MacGregor cited in Barkley, Cross and Howell Major (2014) argue that as learners work in groups 'searching for understanding, solutions, or meanings, or creating a product', they learn to express and defend their positions, and generate new knowledge as they exchange different points of view, question others, seek clarification and participate in higher order thinking such as managing, organizing critical analysis and innovation. It also makes learners responsible for each other's learning as well as their own (Srinivas, cited in Laal, Laal and Khattami-Kermanshahi, 2012). Training learners to take responsibility

and ownership of learning is critical in enhancing motivation to learn beyond the confines of the curriculum and in cultivating interest in lifelong learning. It also enhances holistic learner transformation as they go through the process of education. In support of the foregoing, Freire (2006) argues that learner engagement in the processes stated above has the advantage of making education become a liberating process.

Also in line with the discussion, Principles of Learning and Teaching (2017) maintains that learners should be challenged to explore, question and engage with significant ideas and practices, so that they move beyond superficial understandings to develop higher order, flexible thinking. It also adds that if learning is to develop learners' higher levels of understanding, teaching sequences should promote sustained learning that builds and emphasizes connections between ideas where the teacher promotes substantive discussion of ideas and emphasizes the quality of learning with high expectations of achievement. This requires the teacher to use strategies that challenge and support students to question and reflect, develop investigation, problem solving, and imagination and creativity skills. Developing learners with higher order skills is critical if they are to effectively combat the numerous challenges of today's complex global society. Also, requiring learners to reflect on what they learn nurtures their analytical, problem solving, innovation and other skills that are crucial for life and employment in the dynamic global society. Teacher trainers should exploit the benefits of the pedagogies to ensure that they develop teacher trainees with higher order skills and also train them on the need to question and reflect on what they learn for better understanding and improvement of learning. It is the assumption of this paper that teacher trainees would employ the same principles in teaching to develop their learners with the stated skills to enhance their effective learning.

UNESCO supports the discussion emphasizing that education should develop a complete person who has skills of resolving and managing conflicts for peace, adapting to change and embracing lifelong learning (UNESCO's Four Pillars of Education, 2015). Laal et al. (2013) and Trilling and Fadel (2009) also note that collaborative learning enhances the development of metacognition, improvement in formulating ideas and higher levels of discussion and debate, as well as teaching learners to monitor each other, detect errors and learn how to correct their mistakes. They further state that it improves learner participation in formative assessment (self, individual and group assessment) and increases attendance. In agreement, Leadbeater (2008) argues that learning is more effective when learners are participants rather than merely recipients and also notes that learning by doing supports deeper learning. Dewey (1933) believed that rather than learning by passively receiving, each learner has the capacity to be active, inquisitive and to explore. To this end, learning should be relevant and

rewarding to the learner rather than only theoretical. Dewey criticized the traditional education for treating learners as empty passive vessels to be filled with ideas, noting that education should develop individuals and citizens who are able to find their real vocation. Realization of sustainable development by the year 2030 is pegged on pedagogies that connect learners to real word experiences. Teacher education should set the pace in employing inquiry-based and collaborative strategies in order to prepare teacher trainees to employ the same in schools. This could go a long way in ensuring that education becomes an effective tool for economic development.

3. Project and Problem Based Learning

Project and problem-based pedagogies enable learners to learn by designing and constructing actual solutions in real world context. Projects for instance enable learners to research in teams across subject boundaries, take responsibility for different parts of their project, critique each other's work and create a professional quality product and this enhances development of 21st century skills (Cornell University, 2014a). Research on project-based and problem-based learning report that learners' gains in factual learning are equal to or better than gains achieved employing more traditional classroom instruction. However, when gains on higher-order 21st century skills were measured, learning gains were significantly higher with project and problem-based learning than with traditional Methods (Trilling and Fadel, 2009, pp. 110-111)). Further, project and problem-based strategies have the benefits of defining problems, reasoning using clear arguments and better planning, improving motivation and attitudes toward learning and work habits (Trilling and Fadel, 2009, p. 111). They also encourage flexible learning (Leadbeater, 2008) and accommodate multiple perspectives, resources and environments for learning (McLoughlin and Lee 2008*a*). The pedagogies further prepare learners for future knowledge transfer (P21, 2007*a*) the reason that learners are more successful at applying what they have learned when instruction uses real-world contexts (Bransford et al. cited in P21, 2007*a*). In support of the discussion, Barron and Darling-Hammond (2008) maintain that learners experience deeper learning when they apply classroom-gathered knowledge to real-world problems and take part in projects that require sustained engagement and collaboration.

However, Woods (2014) cautions that teachers must design and plan activities that match the interests and needs of learners and the curriculum; and also shift their roles from knowledge transmitters to facilitators of learning if they are to succeed in project and problem-based pedagogies. In addition, 21st century teachers are expected to be learners with their students and role models a learner would choose to admire and

seek to imitate (Principles of Pedagogy, 2013) in virtues such as confidence, openness, persistence and commitment (Bull and Gilbert, 2012). To play their roles effectively, teachers should tap into the benefits of the pedagogies discussed in this paper. They should also be empowered on a regular basis through substantive professional development programmes, particularly in developing their skills in technology.

4. Reflection

Richards (1994) defines reflection as a process of learning in which self-inquiry becomes a key component of a learner's development. This requires practitioners to engage in a continuous cycle of self-observation and evaluation to enable them to understand their own actions and reactions (Brookfield, 1995; Thiel, 1999) in and outside the classroom (Farell, 2007). Jay and Johnson (2002) maintain that teachers should be reflective in their teaching if they are to become agents of change. Reflection helps teachers to improve their practices (Schon, 1983) and also develop a deep understanding of complex issues based on analysis of available evidence. It further ensures that teaching addresses the needs of the learner and leads them through a deep learning experience that enables them to critically think and apply knowledge at the higher levels of Bloom's taxonomy (Dewey, 1933).

Weimer (2012) argues that learner should reflect on what they learn and how they learn, noting that teachers should make them aware of themselves as learners by regularly asking them what they are learning and how they are learning. Further, teachers should challenge learner's assumptions about learning and encourage them to take responsibility for decisions they make about learning, including how they study for exams and when they do assignments. This is critical because research has established that learners' attitudes, ownership of learning and level of independence are affected positively when they take responsibility for their learning (Meyer et al., 2008). In addition, teachers should give learners assignments that require them to reflect, analyze and critique what they are learning and how they are learning it (Weimer, 2013). Reflection could also be supported through action research projects (Carr & Kemmis, 1986;Pugach, 1990; Sparks-Langer & Colton, 1991; Zeichner, 1986), case studies and ethnographic studies of students, teachers, classrooms and schools (Ross, 1989; Sparkes, 1991; Stoiber, 1990), microteaching and practicum (Cruikshank, 1985; Sparks-Langer & Colton, 1991; Zeichner, 1986) and structured curriculum tasks (Ben-Peretz, 1984; Beyer, 1984, Smith, 1991) cited by Al-Madany (2010).

Reflection has the benefit of making learners aware of themselves as learners, making them desire to develop their learning skills, helping them to identify and

confront their confusion in learning and to talk about their learning and thinking, helping them to compare their strategies of confronting learning challenges with their peers, expanding or replacing existing learning strategies with new and more effective ones and enabling them to think about their learning and become more transparent. It also enables them to make informed learning choices and strengthen their individual judgment and sense of autonomy (Weimer, 2012). Teacher education programme should incorporate reflection to prepare teacher trainees on how to train their students to reflect on what they learn in order to enhance their personal transformation as they go through the process of education. This would go a long way in ensuring that the process of education enriches and transforms learner into critical and creative thinkers who are capable of creating solutions to the numerous challenges affecting the society today.

5. Case Study Teaching Method

A case study is a learner-centered teaching method which can be used in any discipline to help learners to explore how what they learn applies to real world situations. The method has the benefit of imparting learners with critical thinking, problem solving, analysis, decision making, communication, and interpersonal skills (Principles of Teaching and Learning, 2017). Most case studies require learners to answer an open-ended question or develop a solution to an open-ended problem with multiple potential solutions. This challenges and supports them in developing deep levels of thinking and application. However, successfully use of case study requires both teachers and learners to have good organizational and time management skills. It also requires teachers to connect learning with communities and practice beyond the classroom to ensure that learners' learning needs connect with their current and future lives, and with contemporary thinking in the broader community (Principles of Learning and Teaching, 2017). This helps learners to develop a rich view of knowledge and practice of social and ethical issues as they interact with local and broader communities. Connecting learners with realities outside the classroom has the benefit of making education meaningful and relevant as it addresses the learner context in a broad manner that encompasses both the local, national and international community. Mansilla and Jackson (2011) and Saavedra and Opfer (2012) support this view noting that effective curriculum should be relevant to the lives of learners. Also, in agreement, Buckingham (2007) states that bridging the gap between student life in and outside school makes education relevant. He also observes that learning activities that connect learners' experiences to real-world problems transform their focus. The Partnership for 21st

Century Skills (P21, 2007*b*) adds to the discussion noting that learners' motivation and learning increases when they realize the connection between what they are learning and real world issues that matter to them. This connection is crucial because students' experiences in school seem to differ markedly from their lives outside school and this casts doubt on the relevance of the school to the interests and issues that affect learners. It is no wonder the debate on lack of employability skills by graduates churned out by universities is still alive. Teachers should regularly reflect on their teaching methods to enhance selection of relevant pedagogical practices that enhance both collaboration and individualized and self-directed learning with technology support.

To bridge the gap between the school and society, teachers should make learning tasks authentic, personalized, experiential, learner-driven and designed. They should also enable encourage learners to come up with innovative ideas. Redecker and Punie (2010) maintain that active learning, relevant curricula, real world learning and better-trained teachers will improve the overall quality of education and increase learner engagement. UNESCO (2015) supports the view adding that active learner participation in instruction reflects the principle of democratic participation which prepares learners for what is expected of them in a democratic society. It also develops them in character qualities including mindfulness, ethics, leadership, resilience, curiosity and courage. The Partnership for 21st Century Skills (P21, 2007*b*) adds to the discussion noting that meaningful learning activities that focus on the resources, strategies and contexts that learners will encounter in adult life lowers absenteeism rates , improves development of 21st century skills and academic performance. Teacher trainers should exploit the benefits accrued by the various strategies used to enhance case study teaching method if they are to produce teachers who are well equipped with knowledge and skills that will prepare them to facilitate learners with holistic quality education with capacity to transform learners.

6. Lifelong Learning

Lifelong education is the provision of learning opportunities throughout people's lives in order to foster the continuous development and improvement of their professional and personal growth. Today's dynamic world encourages a 'lifelong learning framework that creates comprehensive and flexible pathways combining formal, non-formal and informal learning opportunities to accommodate differences in learning needs. It also acknowledges that technology allows learning to happen anytime and anywhere (UNESCO-ERF, 2013). Lifelong learning also demands that employees are facilitated with opportunities for professional development. In this regard, it is

imperative that in-service teachers are regularly facilitated with in-service training to enhance their professional skills. Lifelong professional development is imperative because the world today is undergoing major changes in socio-economic, political, climate, technology and shift in global markets that demand relearning in order to acquire relevant skills to cope with the changes. Facer (2012) and Redeck and Punie (2013) for instance assert that demographic change dictates the need for effective lifelong learning programmes and retraining options for workers with outdated or mismatched skills or who are seeking to retrain in a different field. The researchers acknowledge the fact that private industry will also become a key player in the provision of lifelong learning opportunities. Realization of lifelong learning therefore demands that learners are taught to recognize that learning and relearning today can occur outside classrooms and schools when teachers effectively employ mobile technologies and social media to support instruction. Teachers should employ both collaborative and individualized (personalized and self-directed) pedagogical practices if they are influence learners to embrace lifelong learning. They should also encourage them (learners) to remain open to emerging developments and opportunities in today's dynamic society.

Carneiro (2007) and P21 (2013) add their voice to the conversation stating that changes resulting from growth of technology dictate that learning should be diversified to include multiple sources of information to learners of all ages in future without the need to enroll in formal degree programmes, leave their jobs to attend school, or spend too much money to upgrade their skills. The educators further observe that this situation may change perceptions about the value of education as access becomes easier and people's dreams of achievement are progressively realized. As such, learning institutions will face the challenge of devising innovative ways to make education more attractive than the alternative pathways available to them. This situation will also dictate that learning institutions reform their curricula and diversify it to accommodate new developments and emerging issues. It will further require a paradigm shift from the traditional modes of learning to those that engage learners meaningfully with technology support. Teacher training institutions should set the pace in embracing pedagogical practices that promote lifelong learning if they are to help teacher trainees to influence learners to embrace lifelong education.

7. Inclusive Pedagogy

Fairness and justice in access to quality education remains an illusion in many countries despite the call on governments to build an inclusive society where all citizens have

equal opportunities to quality education without discrimination on the basis of gender, ethnic origin, language, religion, nationality, social origin, economic condition and ability (Education for All, United Nations, 2015). Notably, the widely used formal model of education across the globe caters for a few learners with intellectual inclinations and neglects the rest who comprise the majority. A shift from this model is imperative if learning is to adapt to the abilities, interests and context of learners and help them to move at the pace commensurate to an individual learner. This is crucial because students learn best when their needs, backgrounds, perspectives and interests are reflected in the learning programme (Principles of Learning and Teaching, 2017). Adapting curricula, assessment and teaching methods to suit individual also helps to appeal to different learning styles-visual, auditory and kinesthetic (UNESCO's Four Pillars of learning, 2013).

Further, assessment practices should be made an integral part of teaching and learning to enhance best learning practices (Principles of Learning and Teaching, 2017). This formative form of assessment has the advantage of ensuring continuous monitoring of learning and feedback. It also helps to clarify learning goals, respond to learners' progress, encourage adaptation, improve learning outcomes, involve learners in meaningful self as well as peer assessment (Facer, 2011; National Research Council, 2012) and enable diagnosis of learning gaps so that they can be addressed before they escalate. Individualizing learning is one significant way of promoting inclusivity in education as it ascertains that individual learner's right to education is not compromised. In this connection, technology integration in learning is useful in enhancing inclusion because of its ability to individualize and personalize instruction to accommodate learners' unique needs, interests and individual learning styles and arouse learners' curiosity to learn. Mobile technologies for instance help learners with disabilities gain access to the curriculum via applications that make text more readable or read text aloud, increasing reading speed and comprehension for students with dyslexia (UNESCO, 2013a). In agreement, Carneiro and Draxler (2008) argue that educational environments must promote inclusion by ensuring that education is responsive to the diverse needs of learners so that those living with disabilities, disadvantaged persons and those who want to relearn have an opportunity to access education. UNESCO (2012) adds to the discussion noting that technology has today enhanced recognition of informal learning opportunities as alternatives to traditional formal education and increased educational opportunities for people in underprivileged communities. Redecker and Punie (2010) also add their voice stating that social media applications should be used as alternative channels for gaining knowledge and enhancing skills to reach out to more people. This entails linking

learners to experts, researchers and practitioners in specific fields of study. Inclusion in education is imperative if countries are to accelerate the realization of sustainable development by the year 2030. The teacher education programme in Kenya should embrace reforms in education that support learner-centered pedagogical practices and also create learning communities among learners that extend beyond the classroom in order to set the pace for inclusive education for all other learning institutions.

8. Integrating Mobile technologies and Social Media in learning

Integrating mobile technologies in learning today is critical because when used appropriately, they offer multiple forms of learning. Solis (2014) observes that the technologies have the potential to improve the dynamics of learning. In agreement, Redecker and Punie (2010) argue that using social media in traditional education and training helps to facilitate and improve learning opportunities; it also promotes pedagogical innovation through personalized and collaborative teaching and learning processes that enhance changing interaction patterns between and among learners and teachers (Redecker et al., 2009). In addition, the technologies transform schools and curricula as they facilitate giving and receiving feedback which allows learners to progressively revise their work and understand what they learn. Teacher trainers should nurture teacher trainees on how to exploit these benefits of technology to provide learners with motivation to learn and to also enhance deep learning of the concepts and skills taught. Bransford et al., cited in P21 (2007b) argue that mobile technologies connect individual learners and professionals in the community, and this enables them to access new learning experiences. It further diversifies their view and context of knowledge, and this makes learning meaningful. Also, in addition to enhancing development of the 21st century skills (such as communication, creativity, critical thinking and innovation), technology facilitates alternative and flexible ways of delivering education (including distance learning and Open University) that have given a window of opportunity for accessing education to people whose schedule of work cannot allow them to attend the traditional school programmes. The numerous benefits of technology integration in learning outlined in this paper dictate that the Teacher education programme in Kenya integrates technology in pre-service teacher training in order to equip teacher trainees with skills on how to effectively integrate the technologies in instruction to enhance effectiveness in curriculum delivery. This is crucial and urgent because Ochangi, Ayot, Kamina, Ondigi & Kimemia (2015) established a gap in the teacher education curriculum in the role of Information

Communication and Technology (ICT) in teaching and learning in the programme. The researchers report that student teachers on TP were unable to integrate ICT in teaching.

9. Learning Environment

A learning environment refers to the diverse physical locations, contexts, and cultures in which students learn as well as the physical and social/cultural setting in which learners carry out their work. It includes all the tools, documents and other artefacts found in that setting (What is a learning Environment/IGI Global. www.igi-global.com/dictionary/learning-environment/16867). *Principles of Learning and Teaching* holds that students learn best when the learning environment is supportive and productive; when it promotes independence, interdependence and self-motivation; when students' needs, backgrounds, perspectives and interests are reflected in the learning programme; when students are challenged and supported to develop deep levels of thinking and application; when assessment practices are an integral part of teaching and learning; and when learning connects strongly with communities and practice beyond the classroom. *Principles of Learning and Teaching* (2017) adds that a learning environment requires teachers to build positive relationships (though knowing and valuing each student); promote a culture of value and respect for individuals and their communities; employ teaching strategies that promote students' self-confidence and willingness to take risks with their learning, and ensure that the learner experiences success through structured support that values and recognizes effort and work. These strategies demand teachers to build consistent, comprehensive and improved pedagogical approaches that enhance flexible and innovative learning. They also require that learners are involved in making decisions concerning their learning and that teachers select activities that are suitable, relevant and appropriate to the learner and the learning objectives; constantly monitor the extent of learning achieved at each stage of the course; repeat and review learning activities to ensure mastery of learning; select activities that illustrate the same principle in a range of different contexts, to help the learner practice the ability to recognize and apply the abstract principle in unfamiliar contexts. They are also expected to sequence the activities logically to ensure incremental increase in difficulty in order to maximize the chance of learner success at each stage to enhance their motivation (Principles of Pedagogy/Ed Tech Now, 2013).Teachers should use flexible teaching strategies that are responsive to the values, needs and interests of individual learners; strengthen learning communities if they are to effectively actualize the principles of learning outlined above. They should also integrate technology in learning and employ a range of pedagogical approaches that

support different ways of thinking and learning to enhance inclusion of all learners. Teacher training institutions should embrace these principles of learning to adequately equip teacher trainees with skills that will adequately prepare them to offer holistic quality education that is responsive to the needs of today's society. As argued above, pedagogical practices based on these principles have the benefits of developing learners with professional and personal skills employers look for in the 21st century. For instance, promoting a culture of value and respect enhances inclusivity in education and also develops citizenship skills including co-existence of learners of different ability, religion, social class, culture or race. In addition, encouraging learners' autonomy in working and involving them in decision making develops critical thinking, problem-solving and innovation skills.

UNESCO contributes to the discussion noting that an effective learning environment creates a school culture and a learning environment in which individual learners thrive and unleash their potential. It also provides learners with incentives and networks, and diversifies their educational experience (UNESCO's Four Pillars of learning, 2013). Learner-centered pedagogy is pivotal in ensuring that individual learners achieve their educational goals. However, the pedagogy requires manageable student-teacher ratios and making interventions for vulnerable learners by providing financial support services such as work study programmes, scholarships and bursaries (UNESCO, Four Pillars of Education, 2015; Gichui, 2015). Learning institutions in Kenya, particularly Public Universities have huge student-teacher ratios that do not render themselves to learner-centered pedagogy. This entails that the institutions continue to entrench the obsolete formal education model and thus offer education that does not address the needs of today's dynamic society. Other learner support services including mentorship, academic advisory, guidance and counselling, clubs and societies, sports and games should be provided to help learners adjust to their environment and develop the attitude to set individual goals that will enhance improvement of their educational programmes while in school and even in their post school life (Cooper, 2007; Glossary of Quality Assurance in Japanese Higher Education, 2007). Student support services also enhance the development of soft skills such as teamwork, responsibility and negotiation that are today sought for by employers. Teacher training institutions should set the pace in providing student support services. This would help teacher trainees to influence the establishment and provision of the same in the schools they are posted to.

Partnership for 21st Century Learning adds to the discussion noting that learning environments should create learning practices, human support and physical environments that support the teaching and learning of 21st century skill outcomes

including collaboration through creation of professional learning communities to enhance best practices and integration of 21st century skills into classroom practice. Further, learning environments should enable learners to learn in relevant, real 21st century world contexts and allow equitable access to quality learning tools, technologies and resources as well as support expanded community and international involvement in both face-to-face and online learning. Most of these qualities have been discussed under the pedagogies discussed earlier in this paper. The qualities demand that every country of the world reforms its education to align it with the 21st century standards of education to ensure that learning institutions produce graduates who are competent to work and live anywhere in the global world. However, success in reforms in developing countries including Kenya is pegged on the governments' good will to invest in critical areas including technology installation in all learning institutions and training pre-service and in-service teachers in technology skills to enable them to effectively integrate technology in instruction.

10. Reforms in Education

Reforms in education are imperative if education has to equip learners with skill that enable them to effectively adapt to the numerous changes in the society resulting from the rapid growth of technology. Thus, pre-service teacher education programme should undergo regular reforms. It is for instance expected to shift its orientation to 21st century principles of teaching and learning such as inter-disciplinary education in order to enhance meaningful connections within and between subject areas needed in competency based approach to education (Basic Education Curriculum Framework, Kenya, 2017). Reforms further require teachers to rethink what they teach and why (Saavedra and Opfer 2012, p. 6). This reflection is critical if teachers are to offer education that addresses the current needs of the society. Further, reforms require teacher training institutions to network with similar institutions locally and internationally for the purpose of bench marking (Brown-Martin, 2014; Future of Learning Group, 2014; Johnson et al., 2014; Lead beater, 2012). This is crucial in enhancing continuous improvement of education. In addition, reforms require the programme to emphasize instructional design, team-building, fostering creativity and innovation (Redecker et al., 2011), integrating technology in learning (Ó Grádaigh, 2014) and designing learning activities that support learners' mastery of the 21st century skills. The Teacher training programme in Kenya should embrace these reforms if it is to produce relevant graduates who can effectively deliver education in the 21st century. The reforms should address the wide scope of curriculum that attracts knowledge

transmission modes of teaching reported by Bunyi (www.sussex.ac.uk/cie/projects/completed/tpa/kenya), in order to shift to engaging modes discussed in this paper, for the purpose of delivering holistic quality and relevant education that can accelerate sustainable development.

11. Conclusion

As noted in this paper, education plays a critical role in developing learners with professional and personal skills which enable them to participate in the economic development of the society. Specifically, education develops learners with skills that enhance production of goods and services, health and agricultural productivity and training of entrepreneurs. Education also inculcates learners with cultural values that equip the with citizenship skills (such as teamwork; respect of different cultures, religions races and social class for cohesive living; morality and integrity) which enable them to play effective roles as members of local, national and international societies. This shows the need for learning institutions to integrate culture in education in order to enhance holistic development of learners, to enable them contribute effectively to holistic development of the society. Reforms in curricula and teaching methods are imperative if the institutions are to realize this important goal of education. It is also critical that curricula embrace interdisciplinary education to enhance the development of the 21st century skills. This is crucial because, the reliance of the inherited model of education (virtually at all levels of learning) in a rapidly changing society has thrown education and society relationships into turmoil where schools are struggling to remain relevant. A shift to a more active and engaging model exemplified by the pedagogies discussed in this paper is imperative if our learning institutions are to offer education that is inclusive and relevant to the needs of the society today. Teacher education should set the pace in educational reforms if other levels of learning are to offer holistic quality education for sustainable development.

12. Recommendations

The following recommends are made with specific reference to teacher education in Kenya:

A. Regular Reforms in Curriculum

The curriculum scope should be well scaled to accommodate engaging modes of instruction. It should also embrace interdisciplinary teaching and learning in order to develop teacher trainees with skills that can help them cope with the complex emerging

issues in today's dynamic society. Technology integration in instruction is also a critical reform needed for this programme in order to align it with the 21st century education landscape.

B. Investment in Technology

Investment in technology is critical in both pre-service and in-service teacher training as well as all other learning institutions. This requires the government to set aside money for installing technology in schools and training teachers in technology skills to enable them to effectively integrate technology in learning. In addition, education planners should establish a budget line for regular in-service teacher training to enhance their acquisition of new skills to enable them to offer education that is responsive to the dynamics of the society. The vast societal changes demand that teacher professional development becomes a lifelong process.

C. Individualizing Learning

Teachers training institutions should embrace learner-centered pedagogy that is personalized and customized in order to cater for different learning styles, abilities, interests and talents among learners. This ensures that individual learner's right to education is upheld. It also enables individuals to have an opportunity to participate in the economic development of their society in their own unique ways- a crucial factor in attaining sustainable development.

D. Shifting the Role of the Teacher from Transmitters to Facilitator

Teacher trainers should embrace pedagogical practices that shift the role of the teacher from a knowledge transmitter to that of a guide/facilitator who engages learners through collaborative and individualized learning activities in which the teacher is also a learner. They should emphasize the need for the paradigm shift in order to influence the trainees to use the same pedagogical practices with their prospective learners in future.

E. Promoting use of mobile technologies and social media in learning

Teacher trainers should promote the use of mobile technologies and social media in learning to enhance digital learner context to make learning relevant and meaningful. This would equip teacher trainees with requisite technology skills that would enable them to effectively drive education in schools with technology support.

F. Encouraging Lifelong Learning

The rapid changes in society today dictate that teachers, learners and employees open to new developments and opportunities for learning and relearning to enable them adapt to the dynamic world. Teacher trainers should help teacher trainees to understand the dynamics of knowledge and skills in a changing society so that they can

embrace lifelong education. This would help them to also train their learner in future to engage in lifelong learning.

G. Fostering Innovation and Creativity in Education

Teacher education programme should orient teaching to 21st century principles of teaching and learning in order to develop teacher trainees with creativity and innovation skills. This entails that education offered in the programme must be reformed to support skill development with technology support and use of learning activities that enhance the development of the 21st century skills including creativity, critical thinking, innovation and problem solving among others.

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